AIR QUALITY[1]

Air pollutant emissions from Maglev trains in themselves are quite small. However, the electrical power necessary to operate the Maglev trains must be generated by power plants that produce air pollutant emissions. Implementation of the Maglev trains should result in a reduction of other transportation sources in the corridor with a corresponding reduction of emissions from other modes of transportation such as conventional or light rail, aircraft, or motor vehicles. The net change in air pollutant emissions resulting from operation of the proposed Maglev Project is obtained by summing the reduction in emissions attributable to reduced use of other transportation modes and the increase in emissions required to produce the electrical power needed to run the Maglev system.

It can be expected that the air quality within the Maglev train corridor would be improved for those pollutants associated with automobile and truck traffic and marginally degraded for those pollutants associated with production of power to run the Maglev. The air quality effects of a full buildout of the Maglev alignment between Anaheim, California, and Las Vegas, Nevada, have not yet been analyzed. However, probable impacts may be generally described based on analyses performed for the FRA Programmatic Environmental Impact Statement for the Maglev Deployment Program.

Air Quality Standards

National Ambient Air Quality Standards and Attainment. National Ambient Air Quality Standards (NAAQS) are established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_x), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). These listed pollutants are commonly referred to as criteria pollutants. The State of California has established state air quality standards that are more restrictive than the NAAQS. The State of Nevada air quality standards are the same as the NAAQS for the federal criteria pollutants. In addition to the NAAQS, both California and Nevada have established state air quality standards for sulfates, hydrogen sulfide, and visibility reducing particles.

When ambient air monitoring for criteria pollutants shows that a region is within the concentration levels specified by the NAAQS or state air quality standards, the region is in "attainment" of the standards. If ambient air concentration levels exceed the NAAQS or state air quality standards, the region is in "non-attainment".

The proposed Maglev alignment in the State of Nevada is located entirely within Clark County, Nevada. Air quality monitoring data indicate that Clark County continues to

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[1] Information drawn from:
Parsons Transportation Group, Inc., *California MAGLEV Deployment Program Environmental Assessment*, 2000;
CNSSTC, *California-Nevada Interstate MAGLEV Project, Las Vegas to Primm Segment Environmental Assessment*, 2000;
FRA, *Final Programmatic Environmental Impact Statement, Maglev Deployment Program*, 2001;
FRA, Army Corps of Engineers, DOD, *Final Report on the National Maglev Initiative*, 1993.

achieve compliance with the NAAQS for all pollutants except CO and PM_{10}. The Las Vegas Valley is designated as a serious non-attainment area for both CO and PM_{10}.

The proposed Maglev alignment in the State of California is located within two California Air Basins: the Mohave Desert Air Basin and the South Coast Air Basin. Air quality monitoring data indicate that the Mojave Desert Air Basin continues to achieve compliance with the national and state ambient air quality standards for all pollutants with the exception of O_3 (severe non-attainment) and PM_{10} (moderate non-attainment). The South Coast Air Basin continues to achieve compliance with the national and state ambient air quality standards for all pollutants with the exception of O_3 (extreme non-attainment), CO (serious non-attainment), and PM_{10} (serious non-attainment).

Potential Maglev Air Quality Effects

For the Nevada portion of the Maglev alignment, the CNSSTC Environmental Assessment published in 2000 showed that implementation of the Maglev system would result in net decreases for all criteria pollutants except NO_x and SO_2. Reductions in emissions for CO and PM_{10} are a direct result of reduced motor vehicle miles traveled (VMT) and would make a positive contribution to improving air quality in the Las Vegas Valley. The Las Vegas Valley is currently in attainment of the NO_x and SO_2 NAAQS. The predicted increases in these pollutants would represent increases of 0.007 percent and 0.1 percent, respectively, compared to Clark County inventories of these pollutants at the time of the EA. It is unlikely that such small increases in emissions could create an increase in ambient levels so as to exceed the NAAQS.

Air emissions estimates have not yet been performed for the California segments of the CNSSTC Maglev system. However, air emissions were estimated for a similar Maglev project proposed between Los Angeles International Airport and March Air Force Base in Riverside County. The proposed alignment corridor is located entirely within the South Coast Air Basin. The Environmental Assessment for the California Maglev Deployment Program published in 2000 showed that implementation of the Maglev system would result in net decreases for all criteria pollutants except PM_{10}. The improvement in air quality is achieved by reduction of VMT. The reduced emissions would be especially beneficial for O_3 and CO levels for which all or parts of the South Coast Air Basin are designated as non-attainment and under federal mandate to reduce these emissions. Most of the increase in PM_{10} emissions would be generated by power plants located outside the South Coast Air Basin, such that the reduction of PM_{10} from reduced VMT would result in an overall decrease of PM_{10} emissions within the Basin.

Construction of the Maglev system in Nevada and California would have temporary air quality effects, primarily from generation of fugitive dust. It is too early in the development of the CNSSTC Maglev project to produce meaningful and accurate emissions estimates from construction activities. Parameters such as the exact size of passenger stations, parking lots, maintenance yards, and other required infrastructure are not yet determined. Therefore, data required to perform calculations of construction-period emissions are not yet available. It should be noted that emissions resulting from construction activities can be mitigated, are usually minor and of short duration, and should not interfere with regional attainment plans.